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14. ABSTRACT In this project we used data from the national hydrographic database in Taiwan to create climatological fields over the outer shelf and upper continental slope northeast of Taiwan. These fields have been used in helping to plan the field work for the DRI. In addition, Gawarkiewicz served as lead scientist for the DRI and organized and led three international workshops focused on planning the integrated international and multi-disciplinary field work in 2008 (pilot study) and 2009 (main experiment). Both field programs will be in late summer.					
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**FINAL REPORT
ONR AWARD NO. N00014-07-1-0482**

**Quantifying, Predicting, and Exploiting (QPE) Uncertainty in the
southern East China Sea: A Climatological and Observational
Approach**

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TASKS AND RESULTS

In this project, there were two tasks: first, for Gawarkiewicz to serve as lead scientist for the Quantifying, Predicting, and Exploiting Uncertainty DRI, and secondly, for Gawarkiewicz and Chris Linder to apply climatological tools previously developed during the Capturing Uncertainty in the Tactical Environment DRI and applying this to the East China Sea northeast of Taiwan. This work appeared in the special issue on Uncertainty in the Journal of Oceanic Engineering (Linder et al., 2006). During the past year, both of these goals were accomplished and set the stage for field work planned during 2008 and 2009.

In collaboration with Professor David Tang and his Ph.D. student Jen-Hua Tai, we used the Matlab-based climatological toolbox developed by C. Linder to create seasonally-averaged cross-shelf sections of temperature, salinity, density and soundspeed. We have also computed other dynamically important parameters for use in acoustic propagation models, initialization of numerical model fields, and eventual comparison with averaged model fields. This work has been presented at the planning workshops and has appeared in the final science plan. A manuscript on this work focusing on climatological fields in Taiwan Strait will be submitted shortly (Linder et al., 2008).

During the past year three separate workshops were held jointly with Taiwanese scientists. The first was in San Francisco in December, 2006, the second was in Arlington, Virginia in June, 2007, and the third was in Girdwood, Alaska in August, 2007. The science plan for the DRI was written in July, 2007 and was reviewed by the group leaders and presented to the

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group in Girdwood. The science plan was finalized in September, 2007 and proposals were submitted in October, 2007.

At present, the DRI continues with field work planned in August/September in 2008 and 2009 with joint oceanographic, seabed, and acoustic efforts. Oceanographic sampling will continue over longer-periods of time with both mooring deployments and drifter and glider surveys.

REFERENCES

Linder, C., G. Gawarkiewicz, and M. Taylor, Climatological estimation of Environmental Uncertainty over the Middle Atlantic Bight shelf and slope. IEEE J. of Oceanic Engineering, 31, 308-324.

Linder, C., G. Gawarkiewicz, J.-H. Tai, and T.-Y. Tang, A climatology of Taiwan Strait and the northeastern South China Sea. Manuscript to be submitted shortly.